PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification: G06F 17/60, H04L 12/18	A2	(11) International Publication Number:	WO 00/28450
		(43) International Publication Date:	18 May 2000 (18.05.2000)

(21) International Application Number: PCT/SE99/01995

(22) International Filing Date: 04 November 1999 (04.11.1999)

(30) Priority Data:
09/186,155 05 November 1998 (05.11.1998) US

(60) Parent Application or Grant
OM TECHNOLOGY AB [/]; (). TILFORS, Jan [/]; (). KATZ, Gary [/]; (). SANDSTRÖM, Staffan ; ().

Published

(54) Title: A METHOD AND A DEVICE RELATING TO AN AUTOMATED EXCHANGE

(54) Titre: PROCEDE ET DISPOSITIF LIES A L'ECHANGE AUTOMATISECHANGE

(57) Abstract

In an automated exchange system a method and a device which automatically checks the corresponding price in other exchange's order books is provided the exchange only allows a match if a better price cannot be found elsewhere. In a preferred embodiment the order is automatically transferred to the exchange having the better price if this is the case, and the order is further processed at that exchange. The method and device provides means so that investors will not have to worry about getting a better price elsewhere, when entering bids into an automated exchange.

(57) Abrégé

Procédé et dispositif qui, dans un système d'échange automatisé, vérifient automatiquement le prix correspondant dans les registres des ordres d'autres échanges. L'échange ne permet la concordance que si un meilleur prix ne peut être trouvé ailleurs. Dans un mode de réalisation préféré, l'ordre est automatiquement transféré, le cas échéant, à l'échange offrant le meilleur prix, et le traitement de l'ordre se poursuit pour cet échange. Le procédé et le dispositif fournissent des moyens aux investisseurs pour qu'ils n'aient pas à se soucier de trouver un meilleur prix ailleurs lorsqu'ils soumettent leur demande dans un échange automatisé.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06F 17/60, H04L 12/18

A2

(11) International Publication Number: WO 00/28450

(43) International Publication Date: 18 May 2000 (18.05.00)

(21) International Application Number: PCT/SE99/01995

(22) International Filing Date: 4 November 1999 (04.11.99)

(30) Priority Data:
09/186,155 5 November 1998 (05.11.98) US

(71) Applicant: OM TECHNOLOGY AB [SE/SE]; S–105 78 Stockholm (SE).

(72) Inventors: TILFORS, Jan; Jung Atles väg 12, S–167 74 Stockholm (SE). KATZ, Gary; 3 Warren Place, Plainview, NY 11803 (US).

(74) Agents: SANDSTRÖM, Staffan et al.; Bergenstråhle & Lindvall AB, Box 17704, SE–118 93 Stockholm (SE).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

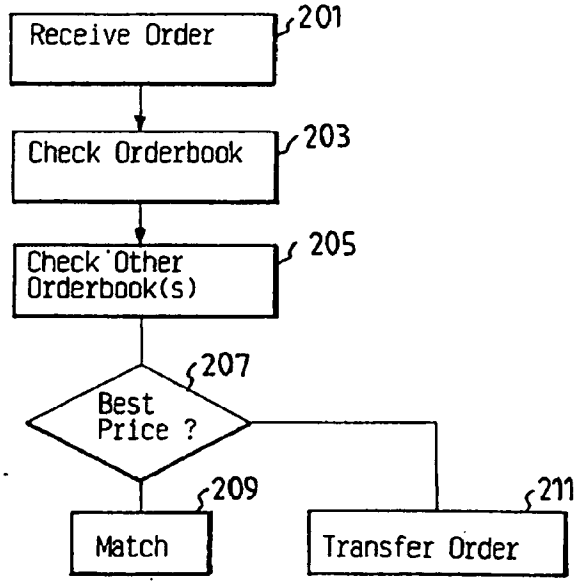
Published

Without international search report and to be republished upon receipt of that report.

(54) Title: A METHOD AND A DEVICE RELATING TO AN AUTOMATED EXCHANGE

(57) Abstract

In an automated exchange system a method and a device which automatically checks the corresponding price in other exchange's order books is provided the exchange only allows a match if a better price cannot be found elsewhere. In a preferred embodiment the order is automatically transferred to the exchange having the better price if this is the case, and the order is further processed at that exchange. The method and device provides means so that investors will not have to worry about getting a better price elsewhere, when entering bids into an automated exchange.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	**ES**	Spain	**LS**	Lesotho	**SI**	Slovenia
AM	Armenia	**FI**	Finland	**LT**	Lithuania	**SK**	Slovakia
AT	Austria	**FR**	France	**LU**	Luxembourg	**SN**	Senegal
AU	Australia	**GA**	Gabon	**LV**	Latvia	**SZ**	Swaziland
AZ	Azerbaijan	**GB**	United Kingdom	**MC**	Monaco	**TD**	Chad
BA	Bosnia and Herzegovina	**GE**	Georgia	**MD**	Republic of Moldova	**TG**	Togo
BB	Barbados	**GH**	Ghana	**MG**	Madagascar	**TJ**	Tajikistan
BE	Belgium	**GN**	Guinea	**MK**	The former Yugoslav Republic of Macedonia	**TM**	Turkmenistan
BF	Burkina Faso	**GR**	Greece			**TR**	Turkey
BG	Bulgaria	**HU**	Hungary	**ML**	Mali	**TT**	Trinidad and Tobago
BJ	Benin	**IE**	Ireland	**MN**	Mongolia	**UA**	Ukraine
BR	Brazil	**IL**	Israel	**MR**	Mauritania	**UG**	Uganda
BY	Belarus	**IS**	Iceland	**MW**	Malawi	**US**	United States of America
CA	Canada	**IT**	Italy	**MX**	Mexico	**UZ**	Uzbekistan
CF	Central African Republic	**JP**	Japan	**NE**	Niger	**VN**	Viet Nam
CG	Congo	**KE**	Kenya	**NL**	Netherlands	**YU**	Yugoslavia
CH	Switzerland	**KG**	Kyrgyzstan	**NO**	Norway	**ZW**	Zimbabwe
CI	Côte d'Ivoire	**KP**	Democratic People's Republic of Korea	**NZ**	New Zealand		
CM	Cameroon			**PL**	Poland		
CN	China	**KR**	Republic of Korea	**PT**	Portugal		
CU	Cuba	**KZ**	Kazakstan	**RO**	Romania		
CZ	Czech Republic	**LC**	Saint Lucia	**RU**	Russian Federation		
DE	Germany	**LI**	Liechtenstein	**SD**	Sudan		
DK	Denmark	**LK**	Sri Lanka	**SE**	Sweden		
EE	Estonia	**LR**	Liberia	**SG**	Singapore		

Description

A method and a device relating to an automated exchange

TECHNICAL FIELD

The present invention relates to a method and a device in an automated exchange, in particular to an automated exchange being connected to other exchanges.

BACKGROUND OF THE INVENTION AND STATE OF THE ART

In existing automated exchange systems for continuous trading (dealer market), a simple first in first served model in the matching is commonly used. Thus, if there is a selling price, which is matched by a buying price, the two orders are matched.

To increase liquidity there are Market Makers (quoters) who are required by the exchange to continuously enter two way quotes. The basic idea is that Market makers must have a two way quote in the market all the time. The quotes (together with ordinary orders) creates a best bid and offer that is sent out as the exchange official price. The best bid offer is used by investors when deciding about buying or selling an instrument.

However, in today's exchanges it has become more and more common that the same financial instrument is trades at different exchanges at the same time. Furthermore, the prices for the same financial instrument is not always the same at these different exchanges. However, investors are not interested in having to care about this. The investors wants the best available and demand that the exchange preferably should guarantee that it provides the best price if there is a deal. This has created a problem for investors, which have to chose the exchange at which the believe that they can obtain the best price at a particular moment.

SUMMARY

It is an object of the present invention to overcome the problem as outlined above and to provide an automated exchange having functionality which reduces or eliminates the risk for a person entering an order into an automated exchange to get a worse price than he could have got at another exchange.

This object is obtained by a method and a device which

automatically checks the best bid/offer from other exchanges.

In a preferred embodiment the exchange only allows a match if a better price cannot be found elsewhere. Instead, the market maker (or primary market maker) of the exchange has entered a parameter to the exchange. The parameter indicates if the market maker is prepared to give a better price, and if so how much better. If the better price is better or equal to the price offered at the other exchange, the deal is automatically closed at the price offered at the other exchange. If the price is still not equal to the price offered at the other exchange, the incoming order is placed in the order book, but no match takes place directly. Instead, a message is sent to the market maker. The market maker can then contact the other exchange and make a deal at their offered price and send a trade report with the customer order to the order book. If a deal is not made with the other exchange the other exchange will update their price to a worse price, and matching can now take place, since no other exchange offers a better price.

In another preferred embodiment, when the other exchange offering the better price is an automated exchange, the order is automatically transferred to the exchange having the better price if this is the case, and the order is processed further at that exchange, or the exchange automatically makes a deal with the other exchange and then in turn makes a deal with the customer.

By using such method and device investors will not have to worry about getting a better price elsewhere.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will now be described by way of non-limiting examples and with reference to the accompanying drawings, in which:

- Fig. 1 is a general view of several interconnected exchanges.
- Fig. 2 is a flow chart illustrating the steps carried out in a procedure when matching orders in an automated exchange system.

DESCRIPTION OF PREFERRED EMBODIMENTS

In Fig. 1, a general view of several interconnected exchanges is shown. Thus, the exchanges 101, 103 and 105 are all interconnected by bi-directional communication paths. The communication paths interconnecting the different exchanges 101, 103 and 105, respectively can be wireless or wireline communication paths, which ever turns out to be the most suitable for the particular case.

In Fig. 2, a flow chart illustrating the steps carried out in a procedure when matching orders in the exchange system shown in Fig. 1 is shown. In the example below it is assumed that a buying order is received in the exchange 101, which is an automated exchange. The other exchanges can be open outcry exchanges or can be automated exchanges too.

Thus, first in a step 201 the buying order is received. Next in a step 203 the best selling order in the order book is checked. Thereupon, the best selling orders in the other automated exchanges, i.e. the exchanges 103 and 105 in this example, is checked in a step 215. Then, in a step 207 the procedure determines where the best price can be obtained at the moment.

Thus, if the best price can be obtained at the exchange 101 the procedure proceeds to a step 209 where matching takes place, and else the procedure proceeds to a step 211, where the following steps are executed:

- check if the market maker is prepared to adjust his price to the price offered by the other exchange. This is preferably carried out by checking a parameter which indicates how much the market maker is prepared to adjust his price. If the adjusted price is better or equal to the price offered by the other exchange, matching automatically takes place at the price offered by the other exchange. The parameter, which is set by the market maker, can also indicate the maximum volume which the market maker is prepared to trade at the adjusted price.

- If the adjusted price is not equal to or better than the price

offered by the other exchange a message is transmitted to the market maker or to personnel at the exchange or the like.

The market maker receiving such a message can then contact the exchange offering the better price close a deal at this price with the other exchange, and then close a deal with the customer who then will have received the best price. If a deal is not made with the other exchange, the other exchange will update their price to a worse price, and matching can now take place, since no other exchange offers a better price. The customer will thus have received the best price on the market in this case too.

In another preferred embodiment, when the other exchange offering the better price is an automated exchange, the order is automatically transferred to the exchange, i.e. the exchange 103 or 105 in this example, having the better price if this is the case, and the order is processed further at that exchange, or the exchange automatically makes a deal with the other exchange and then in turn makes a deal with the customer.

Furthermore, the customer may when entering his order to the automated exchange indicate that he wants the order to be traded at the automated exchange and ignoring prices at the other exchange. This can be beneficial if the customer is more interested in a quick deal than in the best price. Another example when this can be beneficial is when the customer wants trade a whole volume or nothing ("fill or kill").

In yet another preferred embodiment, the exchange guaranties that the customer gets the price offered by the exchange when the order is entered to the exchange at worst. This can be carried out in the following manner. First when the customer enters the order the exchange checks its best price at stores this price in a memory.

Thereupon, other events takes place before a match is done, e.g. the prices at other exchanges is checked and the market maker possibly trades manually with another exchange. During this time

there may be a change in the market resulting in that the best price in the matching is worse than the price offered by the exchange when the costumer initially entered his price. Thus, before matching is performed, the guarantee price stored in the memory is checked and if the guarantee price is better than the best price the customer gets the guarantee price.

In this manner the customer is always guaranteed to get the price offered by the exchange when he enters his order. The guaranteed price can be limited by the market maker or primary market maker to a certain maximum volume.

By using such method and device investors will not have to worry about getting a better price elsewhere.

Claims

CLAIMS

1. A method in an automated exchange being connected to other exchanges, comprising the steps of:
- receiving an order,
- checking which exchange that is currently offering the best price for matching the order, and
- automatically offer a price equal to the other exchange, if another exchange is offering a better price.

2. A method according to claim 1, wherein the price of the other exchange only is matched if a parameter set by a market maker or a primary market maker indicates to match the price offered at the exchange offering the better price.

3. A method according to claim 2, comprising the further step of:
- issuing a message to the market maker or primary market maker that no match was made, if the parameter set indicated this, so that the market maker or primary market maker can handle the costumer order manually if desired.

4. A method according to any of claims 1 - 3, comprising the further step of:
- storing the price currently offered by the exchange in a memory when an order is received.

5. A method according to claim 4, comprising the further step of:
- comparing the price stored in the memory with the best price and match at the best of these two prices.

6. An automated exchange being connected to other exchanges, comprising:
- means for receiving an order,
- means checking which exchange that is currently offering the best price for matching the order, and
- means for automatically offer a price equal to the other exchange, if another exchange is offering a better price.

7. An automated exchange according to claim 6, comprising means arranged to only match the price of the other exchange if a parameter set by a market maker or a primary market maker indicates to match the price offered at the exchange offering the better price.

8. An automated exchange according to claim 7, comprising means for issuing a message to the market maker or primary market maker that no match was made, if the parameter set indicated this, so that the market maker or primary market maker can handle the costumer order manually if desired.

9. An automated exchange according to any of claims 6 - 8, comprising means for storing the price currently offered by the exchange in a memory when an order is received.

10. An automated exchange according to claim 9, comprising means for comparing the price stored in the memory with the best price and match at the best of these two prices.

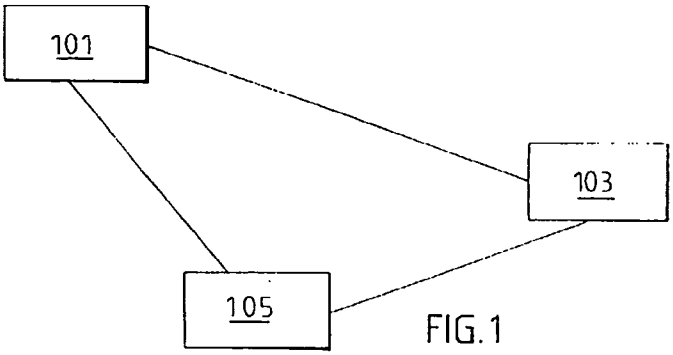

101
103
105

FIG.1

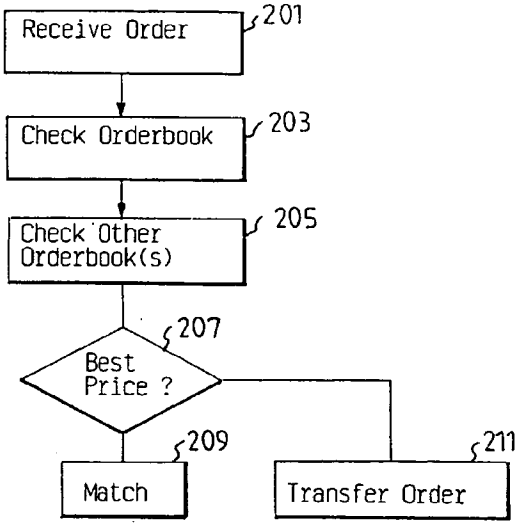

Receive Order
201
Check Orderbook
203
Check Other Orderbook(s)
205
Best Price ?
207
Match
209
Transfer Order
211

FIG.2